

MULTI-DIMENSIONAL PATTERN RECOGNITION BY USE OF DIGITAL HOLOGRAPHY

ABSTRACT

5 A method and system for performing three-dimensional pattern recognition by
use of digital holography is disclosed. The complex amplitude distribution generated
by an object is recorded by phase-shifting interferometry. The digital hologram
contains information about the objects shape, location, and orientation. This
information allows one to perform multi-dimensional pattern-recognition methods
with a high degree of discrimination and to measure three-dimensional orientation
changes.
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